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ABSTRACT

This book is designed to help better understand problem-solving instruction. It presents information on helping students understand the problem-solving process as well as information on teaching specific strategies, including: Choose an Operation; Find a Pattern; Make a Table; Make an Organized List; Draw a Picture or Diagram; Guess, Check, and Revise; Use Logical Reasoning; and Work Backward. Ideas for introducing each strategy to students in a visual or hands-on way are presented. These introductory lessons are not grade level-specific, but rather depend on the students' prior knowledge or previous exposure to the strategy. In all cases, students at the second grade level can be exposed to the introductory lesson, but a similar activity may be appropriate for older students who have never been exposed to the strategy. Although second grade work samples are the earliest samples provided in this book, students can begin to develop many of the strategies, including finding patterns, making lists and tables, and drawing pictures, in kindergarten or first grade. At these levels, visual and hands-on examples are essential to instruction. For each strategy, teacher tips that highlight some important points to emphasize when working with students are shared. Examples of student work are presented for each strategy, including samples of students' communications about their problem solving. The work samples help see the progression of skills, and the writing samples offer a glimpse into students' thinking as their problem-solving skills develop. The final chapter provides ideas for connecting problem solving to students' lives. Ideas for using real-world data and materials are presented. The appendices contain a variety of materials to help implement a problem-solving program in the classroom. Checklists, evaluation forms, scoring keys, and icons are all available, as well as a variety of practice problems for students. (Contains 41 references.) (ASK)

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